

IN THE CLAIMS

Please amend the claims as follows:

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Claim 1 (Withdrawn): An optical scanning device, comprising:

a plurality of scanning optical systems configured to scan different scanning surfaces,
each of the scanning optical systems comprising:

a light source configured to emit a light flux;

a deflector configured to scan the light flux emitted from the light source, wherein the
deflector is commonly used in the plurality of scanning optical systems;

a scanning lens configured to condense the scanned light flux to the scanning surface;

an optical path inflection mirror configured to inflect the scanned light flux; and

an imaging lens configured to lead the light flux emitted from the light source to the
deflector,

wherein the plurality of scanning optical systems are provided at both sides of the
deflector with the deflector being therebetween such that one each of the scanning optical
systems at both sides of the deflector comprise a set of the optical scanning system and
respective light fluxes scanned by the deflector, the set of the optical scanning system being
approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirrors provided in each of the set of
scanning optical systems is represented by "N" where $N > 2$, "M" where $M > 1$, and where "k"
is an integer equal to zero or larger.

Claim 2 (Withdrawn): The optical scanning device according to claim 1, wherein one
or more of the plurality of scanning optical systems are provided in a sub-scanning direction

at both sides of the deflector in addition to the scanning optical systems provided at both sides of the deflector with the deflector being therebetween.

Claim 3 (Withdrawn): The optical scanning device according to claim 2, wherein a difference of the number of optical path inflection mirrors between two of the plurality of scanning optical systems in the sub-scanning direction at both sides of the deflector is set to zero or an even number.

Claim 4 (Currently Amended): An optical scanning device, comprising:
a plurality of scanning optical systems configured to scan different scanning surfaces,
each of the scanning optical systems comprising:

a light source configured to emit a light flux;

a deflector configured to scan the light flux emitted from the light source,
wherein the deflector is commonly used in the plurality of scanning optical systems;

a plurality of scanning lenses configured to condense the scanned light flux to
the scanning surface;

an optical path inflection mirror configured to inflect the scanned light flux
and to decrease an amount of change in a relative scanning position of each scanning
optical system caused by a temperature fluctuation in the plurality of scanning optical
systems; [[and]]

an imaging lens including a resin lens having a power in a sub-scanning
direction and configured to lead the light flux emitted from the light source to the
deflector; and

a housing configured to support the light source and imaging lens,

wherein the resin lens is directly affixed to the housing,

wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of optical path inflection mirrors between two of the plurality of scanning optical systems is set to zero or an even number, and wherein the optical path inflection mirror is non-movable in position and configured among the plurality of scanning lenses.

Claim 5 (Withdrawn): The optical scanning device according to claim 1, wherein the scanning optical system comprises a plurality of scanning lenses and an optical path inflection mirror being configured among the plurality of scanning lenses.

Claim 6 (Canceled).

Claim 7 (Withdrawn): The optical scanning device according to claim 1, wherein the imaging lens includes a resin lens.

Claim 8 (Previously Presented): The optical scanning device according to claim 4, wherein the optical path inflection mirror comprises two or more optical path inflection mirrors configured between a first grouping of the plurality of scanning lenses and a second grouping of the plurality of scanning lenses.

Claim 9 (Withdrawn): The optical scanning device according to claim 7, further comprising:

a housing to which the light source and the imaging lens are provided.

Claim 10 (Canceled).

Claim 11 (Withdrawn): The optical scanning device according to claim 9, wherein the imaging lens is directly affixed to the housing.

Claim 12 (Canceled).

Claim 13 (Withdrawn): An image forming apparatus, comprising:

a transfer sheet feeding device; and

an optical scanning device including a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:

a light source configured to emit a light flux;

a deflector configured to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;

a scanning lens configured to condense the scanned light flux to the scanning surface;

an optical path inflection mirror configured to inflect the scanned light flux; and

an imaging lens configured to lead the light flux emitted from the light source to the deflector,

wherein the plurality of scanning optical systems are provided at both sides of the deflector with the deflector therebetween such that one each of the scanning optical systems at both sides of the deflector comprise a set of the optical scanning system and respective light fluxes scanned by the deflector, the set of the optical scanning system being approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirrors provided in each of the set of scanning optical systems is represented by “N” where $N > 2$, “M” where $M > 1$, and where “k” is an integer equal to zero or larger.

Claim 14 (Currently Amended): An image forming apparatus, comprising:
a transfer sheet feeding device; and
an optical scanning device including a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:

a light source configured to emit a light flux;

a deflector configured to scan the light flux emitted from the light source,
wherein the deflector is commonly used in the plurality of scanning optical systems;

a plurality of scanning lenses configured to condense the scanned light flux to the scanning surface;

an optical path inflection mirror configured to inflect the scanned light flux and to decrease an amount of change in a relative scanning position of each scanning optical system caused by a temperature fluctuation in the plurality of scanning optical systems; [[and]]

an imaging lens including a resin lens having a power in a sub-scanning direction and configured to lead the light flux emitted from the light source to the deflector; and

a housing configured to support the light source and imaging lens,

wherein the resin lens is directly affixed to the housing,

wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of optical path inflection mirrors

between two of the plurality of scanning optical systems is set to zero or an even number, and wherein the optical path inflection mirror is non-movable in position and configured among the plurality of scanning lenses.

Claim 15 (Withdrawn): An optical scanning device, comprising:

a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:

a light source means for emitting a light flux;

a deflector means for scanning the light flux emitted from the light source means, wherein the deflector means is commonly used in the plurality of scanning optical systems;

a scanning lens means for condensing the scanned light flux to the scanning surface;

an optical path inflection mirror means for inflecting the scanned light flux; and

an imaging lens means for leading the light flux emitted from the light source means to the deflector means,

wherein the plurality of scanning optical systems are provided at both sides of the deflector means with the deflector means being therebetween such that one each of the scanning optical systems at both sides of the deflector means comprise a set of the optical scanning system and respective light fluxes scanned by the deflector means in the set of the optical scanning system become approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirror means provided in each of the set of scanning optical systems is represented by "N" where $N > 2$, "M" where $M > 1$, and where "k" is an integer equal to zero or larger.

Claim 16 (Withdrawn): The optical scanning device according to claim 15, wherein one or more of the plurality of scanning optical systems are provided in a sub-scanning direction at both sides of the deflector means in addition to the scanning optical systems provided at both sides of the deflector means with the deflector means being therebetween.

Claim 17 (Withdrawn): The optical scanning device according to claim 16, wherein a difference of the number of optical path inflection mirror means between two of the plurality of scanning optical systems in the sub-scanning direction at both sides of the deflector means is set to zero or an even number.

Claim 18 (Currently Amended): An optical scanning device, comprising:
a plurality of scanning optical systems configured to scan different scanning surfaces,
each of the scanning optical systems comprising:

~~a light source~~ means for emitting a light flux;

~~a deflector~~ means for scanning the light flux emitted from the ~~light source~~
means for emitting, wherein the ~~deflector~~ means for scanning is commonly used in the
plurality of scanning optical systems;

a plurality of ~~scanning lens~~ means for condensing the scanned light flux to the
scanning surface;

~~an optical path inflection mirror~~ means for inflecting the scanned light flux
and decreasing an amount of change in a relative scanning position of each scanning
optical system caused by a temperature fluctuation in the plurality of scanning optical
systems; [[and]]

~~an imaging lens means~~ including a resin lens having a power in a sub-scanning direction for leading the light flux emitted from the ~~light source~~ means for emitting to the ~~deflector~~ means for scanning; and

means for supporting the means for emitting and the means for leading the light flux,

wherein the resin lens is directly affixed to the means for supporting,

wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of ~~the optical path inflection mirror~~ means for inflecting between two of the plurality of scanning optical systems is set to zero or an even number, ~~the imaging lens means includes a resin lens,~~ and wherein the ~~optical path inflection mirror~~ means for inflecting is non-movable in position and configured among the plurality of ~~scanning lens~~ means for condensing.

Claim 19 (Withdrawn): The optical scanning device according to claim 15, wherein the scanning lens means is one of a plurality of scanning lens means and an optical path inflection mirror means is provided among the plurality of scanning lens means.

Claim 20 (Canceled).

Claim 21 (Withdrawn): The optical scanning device according to claim 15, wherein the imaging lens means includes a resin lens.

Claim 22 (Currently Amended): The optical scanning device according to claim 18, wherein the ~~optical path inflection mirror~~ means for inflecting comprises two or more optical

path inflection mirrors configured between a first grouping of the plurality of ~~scanning lens~~ means for condensing and a second grouping of the plurality of ~~scanning lens~~ means for condensing.

Claim 23 (Withdrawn): The optical scanning device according to claim 21, further comprising:

a housing means configured to support the light source means and the imaging lens means.

Claim 24 (Canceled).

Claim 25 (Withdrawn): The optical scanning device according to claim 23, wherein the imaging lens means is directly affixed to the housing means.

Claim 26 (Canceled).

Claim 27 (Withdrawn): An image forming apparatus, comprising:

a transfer sheet feeding means for feeding a transfer sheet; and

an optical scanning means including a plurality of scanning optical systems for scanning different scanning surfaces, each of the scanning optical systems comprising:

a light source means for emitting a light flux;

a deflector means for scanning the light flux emitted from the light source means,

wherein the deflector means is commonly used in the plurality of scanning optical systems;

a scanning lens means for condensing the scanned light flux to the scanning surface;

an optical path inflection mirror means for inflecting the scanned light flux; and

an imaging lens means for leading the light flux emitted from the light source means to the deflector means,

wherein the plurality of scanning optical systems are provided at both sides of the deflector means with the deflector means being therebetween such that one each of the scanning optical systems at both sides of the deflector means comprise a set of the optical scanning system and respective light fluxes scanned by the deflector means, in the set of the optical scanning system being approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when a number of optical path inflection mirror means provided in each of the set of scanning optical systems is represented by "N" where $N > 2$, "M" where $M > 1$, and where "k" is an integer equal to zero or larger.

Claim 28 (Currently Amended): An image forming apparatus, comprising:
~~a transfer sheet feeding~~ means for feeding a transfer sheet; and
~~an optical scanning~~ means including a plurality of scanning optical systems for scanning different scanning surfaces, each of the scanning optical systems comprising:
 ~~a light source~~ means for emitting a light flux;
 ~~a deflector~~ means for scanning the light flux emitted from the ~~light source~~ means for emitting, wherein the ~~deflector~~ means for scanning is commonly used in the plurality of scanning optical systems;
 a plurality of scanning lens means for condensing the scanned light flux to the scanning surface;
 ~~an optical path inflection mirror~~ means for inflecting the scanned light flux and decreasing an amount of change in a relative scanning position of each scanning

optical system caused by a temperature fluctuation in the plurality of scanning optical systems; [[and]]

~~an imaging lens~~ means including a resin lens having a power in a sub-scanning direction for leading the light flux emitted from the light source means to the deflector means; and

a means for supporting the means for emitting and the means for leading the light flux,

wherein the resin lens is directly affixed to the means for supporting,

wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of ~~optical path inflection mirror~~ the means for inflecting between two of the plurality of scanning optical systems is set to zero or an even number, ~~the imaging lens means includes a resin lens,~~ and wherein the ~~optical path inflection mirror~~ means for inflecting is non-movable in position and configured among the plurality of ~~scanning lens~~ means for condensing.

Claim 29 (Withdrawn): A method for decreasing an amount of change in a relative scanning position, the method comprising:

providing a plurality of scanning optical systems configured to scan different scanning surfaces, each of the scanning optical systems comprising:

a light source to emit a light flux;

a deflector to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;

a scanning lens to condense the scanned light flux to the scanning surface;

an optical path inflection mirror to inflect the scanned light flux; and

an imaging lens to lead the light flux emitted from the light source to the deflector,

wherein the plurality of scanning optical systems are provided at both sides of the deflector with the deflector being therebetween such that one each of the scanning optical systems at both sides of the deflector comprise a set of the optical scanning system and respective light fluxes scanned by the deflector, the set of the optical scanning system being approximately parallel in a main scanning direction, and wherein an expression,

$$|N - M| = 2k + 1$$

is satisfied when the number of optical path inflection mirrors provided in each of the set of scanning optical systems is represented by "N" where $N > 2$, "M" where $M > 1$, and where "k" is an integer equal to zero or larger.

Claim 30 (Currently Amended): A method for decreasing an amount of change in a relative scanning position, the method comprising:

providing a plurality of scanning optical systems to scan different scanning surfaces, each of the scanning optical systems comprising:

a light source to emit a light flux;

a deflector to scan the light flux emitted from the light source, wherein the deflector is commonly used in the plurality of scanning optical systems;

a plurality of scanning lenses configured to condense the scanned light flux to the scanning surface;

an optical path inflection mirror configured to inflect the scanned light flux and to decrease an amount of change in a relative scanning position of each scanning optical system caused by a temperature fluctuation in the plurality of scanning optical systems; [[and]]

an imaging lens including a resin lens having a power in a sub-scanning direction and configured to lead the light flux emitted from the light source to the deflector; and

a housing configured to support the light source and imaging lens,

wherein the resin lens is directly affixed to the housing,

wherein the plurality of scanning optical systems are provided in a sub-scanning direction, wherein a difference in a number of optical path inflection mirrors between two of the plurality of scanning optical systems is set to zero or an even number, and wherein the optical path inflection mirror is non-movable in position and configured among the plurality of scanning lenses.